

Norwood, Connor W. MHA; Biviji-Sharma, Rizwana MS; Knotts, Adam MBA; Omenka, Isaac MS; Stone, Cynthia DrPH, RN; Purviance, Donna DNP, AANC, FNP-BC

Abstract

Prescription drug abuse has become a top public health concern in the United States in recent years. Changes in prescribing practices and the way in which health providers manage pain resulted from national quality improvement efforts in the 1990s. The majority of efforts to reduce morbidity and mortality associated with the prescription drug abuse epidemic occur through policy initiatives at the state level. In 2011, Indiana ranked 17th in the U.S. and had only implemented a few intervention and prevention strategies. However, through a coordinated effort within the state, Indiana has expanded Good Samaritan laws and adopted rescue drug policies. Furthermore, the nursing workforce in Indiana has played a critical role in the successful implementation of these new policies. Nurses across the state have provided education and training to first responders and lay persons. They have also consulted with law enforcement agencies and other organizations looking to fully leverage the potential of these new state policies. As a result of their versatility and clinical expertise the nursing workforce has and will continue to play a critical role in the successful implementation of state policy initiatives aimed at fighting the prescription drug abuse epidemic.

Keywords: prescription drug abuse, nursing, nursing workforce, opioids, opioid analgesics, state policy, health policy, public health

This is the author's manuscript of the article published in final edited form as:

Norwood, C. W., Biviji-Sharma, R., Knotts, A., Omenka, I., Stone, C., & Purviance, D. (2015). Fighting Prescription Drug Abuse Through State Policy: The Role of Nursing in Successful Implementation. *Journal of Addictions Nursing*, 26(4), 203–207. <http://doi.org/10.1097/JAN.0000000000000097>

Fighting Prescription Drug Abuse through State Policy:
The Role of Nursing in Successful Implementation

Introduction

In 2009, the United Nations Office on Drugs and Crime (UNODC) estimated that between 12 and 21 million people used opiates worldwide (United Nations Office on Drugs and Crime, 2014). “Opiates and opioids top the list of problem drugs that cause the most burden of disease and drug-related deaths worldwide. In recent years, the non-medical use of various prescription opioids has become increasingly problematic in some areas of the world, particularly in North America”(United Nations Office on Drugs and Crime, 2014). The United States has been a victim of the prescription drug abuse epidemic. Today, emergency departments (ED) in the U.S. are flooded with treatment admissions related to prescription opioid use. Between 1993 and 2005, opioid prescribing for pain-related visits to the ED increased by 14% (Pletcher, Kertesz, Kohn, & Gonzales, 2008). This prescribing trend increased after national quality improvement initiatives in the late 1990s (Pletcher et al., 2008).

In 2012, the U.S. Centers for Disease Control and Prevention (CDC) estimated that someone dies from an unintentional prescription drug overdose every 19 minutes (Centers for Disease Control and Prevention, 2012b). Overdoses from prescription opioid pain relievers (OPR) quadrupled between 1999 and 2010 (Rudd et al., 2014). An analysis of mortality data from 28 states showed that from 2010 to 2012 heroin overdoses increased from 1.0 to 2.1 per 100,000 people whereas the death rate for OPR overdoses decreased from 6.0 to 5.6 during the same period (Rudd et al., 2014). Although the OPR overdose death rate decreased during this time period, it remains a significant problem throughout the United States.

A major contributing factor to the increase in the unintentional drug overdose death rate in recent years is the expanded use of opioid analgesics. Over the past decade opioid analgesics have caused more overdose deaths than heroin and cocaine combined (Centers for Disease Control and Prevention, 2012a). If the number of deaths related to prescription drug abuse is not alarming enough, the CDC reports that for every unintentional overdose, “nine persons are admitted for substance abuse treatment, 35 visit emergency departments, 161 report drug abuse or dependence, and 461 report nonmedical uses of opioid analgesics” (Centers for Disease Control and Prevention, 2012b).

Cost of the Problem

Not only are the number of deaths related to prescription drug abuse alarming, but the economic impact of opioid abuse represents a significant burden for society. In 2006, a study estimated that the cost to the U.S. economy for nonmedical use of prescription painkillers was \$53.4 billion. Of that, \$42 billion was due to lost productivity, \$8.2 billion in criminal justice costs, \$2.2 billion for drug abuse treatment, and \$944 million in medical complications (Hansen, Oster, Edelsberg, Woody, & Sullivan, 2011). Figure 1 illustrates the breakdown of these costs. In addition to these costs, fraudulent or abusive purchases of controlled substances has resulted in high costs to the U.S. Medicaid program, according to the Government Accountability Office (Levi, Segal, & Miller, 2013).

As a result of the increasing rate of fatalities due to drug overdoses and the significant economic burden associated with these mortalities the White House Office of National Drug Control Policy (ONDCP), the Centers for Disease Control and Prevention (CDC), the Substance Abuse and Mental Health Services Administration (SAMSHA), as well as state and local public health agencies have made reducing prescription drug abuse a top priority (Centers for Disease

Control and Prevention, 2012a). In 2014, the 22 Association for State and Territorial Health Officials (ASTHO) implemented the 15x15 challenge that would reduce prescription drug misuse and deaths by 15% by 2015 (Association of State and Territorial Health Officers, 2014). In order for these organizations to meet their goals and combat the prescription drug abuse epidemic evidence-informed intervention strategies must be implemented at the state level.

State-Level Intervention Strategies

The U.S. prescription drug abuse epidemic has grown exponentially, which has significantly outpaced the ability to conduct significant research to inform and establish evidence-based practices to prevent prescription drug abuse (Levi et al., 2013). While research is ongoing to inform these important policy issues, the *Prescription Drug Abuse Injury Policy Report* published by Trust for America's Health in collaboration with the Robert Wood Johnson Foundation identified 10 intervention strategies that were considered to be the most promising approaches to fighting prescription drug abuse. These policies were identified through consultation with experts in public health, medicine and law enforcement. Table 1 identifies and describes each of these 10 intervention strategies.

The identified intervention strategies may be broken into two categories. The first category includes strategies aimed at prevention of drug misuse and abuse such as implementation and mandatory use of Prescription Drug Monitoring Programs (PDMPs), medical provider education laws, and implementation of physical exam requirements. The second category of interventions aims to increase access to and support for substance abuse services. These strategies include adoption of Good Samaritan laws, overdose harm reduction programs, and laws that support access to rescue drugs. This category also encourages resources be allocated for development and continued support for substance abuse services. Specifically,

the U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration (SAMHSA) has reported a growing workforce crisis in the addictions field due to high turnover rates, worker shortages, an aging workforce, stigma and inadequate qualified workforce (Canady, 2015).

Of the 10 intervention strategies outlined by Trust for America's Health, two of them are not commonly employed in the vast majority of the states. These two strategies are Good Samaritan laws and rescue drug laws. Good Samaritan laws are meant to encourage individuals to help someone in danger of an overdose by providing some degree of immunity from criminal charges or mitigation (Levi et al., 2013). In fact, 88% of prescription painkiller users were more likely to call 911 after becoming aware of the Good Samaritan law in Washington (University of Washington Alcohol and Drug Abuse Institute, 2011). Rescue drug laws, on the other hand, are intended to support greater access to, and use of, naloxone for overdosing individuals given by lay responders. Naloxone (Narcan) is a rescue drug that counteracts the effects of an opioid or heroin drug overdose. Although these Good Samaritan laws and rescue drug laws are promising, they were only enacted in 6 and 17 states, respectively (Table 1). Policy initiatives that aim to curb prescription drug abuse across the country should focus on implementation of these two strategies as a large number of states have not yet established these policies. This presents a prime opportunity to make remarkable strides in fighting the prescription drug abuse epidemic through policy initiatives at the state level.

Prescription Drug Abuse in Indiana

In 2011, Indiana ranked 17th for drug overdose mortality in the United States and reported 14.4 drug overdose mortalities per 100,000 people (Levi et al., 2013). However, Indiana's high ranking may not be a total surprise as thirty-three states throughout the U.S. had

implemented more intervention and prevention strategies than Indiana as of 2011 (Levi et al., 2013). Fortunately, Indiana state policymakers have worked diligently to expand Good Samaritan laws and rescue drug laws that may be vital to the prevention of prescription drug abuse in Indiana.

Senate Bill 227: Expanding the Good Samaritan Law

Indiana expanded the Good Samaritan law that provides immunity to first responders with SB 227, authored by Senator Jim Merritt. This law went into effect in March of 2014. Through this legislation first responders are now allowed to utilize naloxone in cases of emergency. The act amends the existing law thereby allowing a paramedic, medical technician, firefighter, law enforcement officer, emergency medical responder, or a paramedic to administer naloxone to a person suffering from a drug overdose (National Alliance for Model State Drug Laws, 2014). The act also provides immunity to health care providers which prescribe naloxone and the pharmacists who dispense the prescription (National Alliance for Model State Drug Laws, 2014).

With the expanded Good Samaritan law in Indiana, the Indianapolis Metro Police Department (IMPD) was able to implement a naloxone pilot program in their Southwest District. IMPD started this program in April of 2014. Shortly thereafter, IMPD expanded the naloxone program to all their districts, which has recorded 46 lives saved in Indianapolis (Fredrick, 2015). Other police departments throughout the State of Indiana have implemented similar programs as a result of IMPD's success. These other programs have recorded saving an additional 86 lives as of January 2015 (Fredrick, 2015). State police departments have continued to demonstrate great success through these programs which were ultimately made possible through the adoption of expanded Good Samaritan laws in Indiana.

Additionally, SB 227 expanded the existing law to include Emergency Medical Technicians (EMTs) in the definition of first responders, which has led to the Emergency Medical System (EMS) in Indiana reporting increased number of naloxone administrations. EMS reports indicate that there were 629 administrations of naloxone in 2013, which jumped to 1,063 administrations in 2014 (Duwve, 2015). Furthermore, the average number of administrations per months in the first 6 months of 2014 was 52.4. However, the number more than doubled in the second half of the year by increasing to 105.6 administrations per month (Duwve, 2015). These data indicate that naloxone use has increased since the adoption of SB 227. As the usage of naloxone has increased in Indiana, toxicology reports also indicate that the number of deaths due to opioid overdose in Marion County decreased from 26 cases in June of 2014 to 12 cases in July of 2014 (B. Ray, personal communication, April 15, 2015). Passage of SB 227 in Indiana was a positive step that has facilitated a reduction in opioid overdoses. However, additional policy initiatives in Indiana must strive to expand support for rescue drug laws to further reduce the impact of prescription drug abuse on Indiana residents across the state.

Indiana Senate Bill 406: Rescue Drug Laws

The primary purpose of SB 227 was to expand Good Samaritan laws whereas, SB 406 sought to support rescue drug laws to further expand naloxone administration by family members, friends and other individuals. More specifically SB 406 1) expands direct prescription-based access to high-risk individuals and those closest to him or her, 2) requires emergency responders to report the number of times the antidote is administered, and 3) provides civil and criminal protections. Naloxone has been called the ‘cousin of the EpiPen’ after being distributed safely to tens of thousands of private citizens in the Midwest. The Indiana Senate passed the bill 50-0 in March of 2015. In April of 2015, the Indiana House Public Health Committee passed SB

406, which is very similar to pro-Naloxone legislation passed in other surrounding states. The bill passed by the House, and the Governor signed it into law upon his signature April 10, 2015.

According to the CDC, “providing naloxone kits to laypersons reduces overdose deaths, is safe, and is cost-effective” (Wheeler, Jones, & Gilbert, 2015). Furthermore, many states, now including Indiana, have laws to support the distribution of naloxone to laypersons. The number of organizations distributing naloxone is increasing. However, in 2013, 20 states had no organization providing naloxone to laypersons (Wheeler et al., 2015). Indiana has now expanded legislation to support layperson administration of naloxone, but the successful implementation of these policies relies on continued work and commitment from public health professionals, law enforcement, policymakers and health professionals.

The Role of Nursing in Successful Implementation of State Policy

In 2012, the Bureau of Health Workforce (BHW) in the Department of Health and Human Services (DHHS) reported that there were approximately 2.9 million registered nurses (RNs) actively practicing, (Health Resources and Services Administration, 2014) making RNs the largest component of the workforce in the health system. Nurses are vital health care providers that play important roles in coordinated care efforts. They are a major player in virtually all health care settings and their demand is increasing.

In Indiana, as a part of the requirements set forth by ratification of SB 227, law enforcement and first responders were given the charge of administering intra-nasal naloxone in opiate/heroin overdose cases after receiving appropriate education. The tenants of the education included the pharmacokinetics and pharmacodynamics of opiates and naloxone, and recognition of an overdose presentation at the scene. A pilot project was completed by one advanced practice nurse (APN) in fulfillment of her Doctorate education. To extend evidenced based

practice as it relates to opiate/heroin substance abuse, overdose management, and epidemiological criminology, the hypothesis in the translation of the evidence into practice was that education would increase knowledge comprehension and improve officers' attitudes toward administering intra-nasal naloxone to an overdose victim. The Opioid Overdose Knowledge (OOKS) and Attitude (OOAS) scale (Williams, Strang, & Marsden, 2013) was utilized.

Training was provided to three rural county sheriff departments which included first responders and one university campus law enforcement agency. IRB granted exempt status prior to the institution of the project. The training consisted of didactic and skills competency training with return demonstration. Pre and post-testing was employed. Statistical analysis of the data collected showed knowledge improved pre to post testing thus impacting competency and concern scores as was anticipated. Interestingly, readiness scores showed the officers resoundingly stated they would want to be able to help an overdose victim (100%), felt the need to intervene (96.7%), would call for an ambulance immediately (96.7%) and would do whatever necessary to save a life (90%) (Purviance & Southard, 2015). Thus, this effort by nursing contributed to the advancement of the Theory of Epidemiological Criminology (Akers, Potter, & Hill, 2013), and added validity to the OOKS and OOAS as a tool for research.

From this research project, advanced practice nurses are being utilized by the Indiana Attorney General's (AG's) BitterPill Task force to disseminate education to law enforcement and first responders throughout the state. A "train-the-trainer" project is being launched to provide an avenue to educate emergency services personnel, law enforcement on university and college campuses state wide, and through the Indiana Sheriff's Association. At the annual BitterPill symposium hosted by the AG's office, a large scale "train-the-trainer" session will be provided

with coordination with the Indiana State Department of Health by a Doctorate of Nursing Practice prepared APN.

Nursing is well represented on the AG's task force in a variety of settings. Current efforts include exploring substance abuse and opiate pharmacology education for licensed and non-licensed nursing personnel. The charge is to develop a robust curriculum standard addressing substance abuse, risk stratification, early recognition of potential opiate addiction, and enhanced communication skills including interactive interviewing and conflict management. Nursing is working to adopt or adapt patient education materials for the bedside nurse, meeting quality improvement benchmarks set by credentialing bodies, as well as evaluating current published materials to provide on the BitterPill website for public viewing. And lastly, nurses are dialoging with the State Nursing Board in the adoption of opiate prescribing regulations, much like those enacted by the Indiana Medical Licensing Board ("Emergency Rule," 2013).

With the passage of Aaron's Law (SB 406), one DNP prepared APN has been instrumental in the development of the Indiana Coalition of Prevention and Treatment, (ICPT), a non-profit organization. This coalition was founded in response to a grass root effort by parents and consumers throughout the state, representing those who have lost loved ones to opiate/heroin overdoses. Education and political lobbying are the heart of the organization. Out of these efforts, and those at the AG task force, education for family and friends is earmarked. The hope of the nurses involved is to reach out to community and faith-based organizations to provide addiction, substance abuse, and naloxone education.

Additionally, in 2015, the Substance Abuse and Mental Health Services Administration (SAMHSA) released a 5 point plan to improve the nation's mental health.(Canady, 2015) As a part of the 5 point plan, SAMHSA calls for an expansion of the mental health workforce that will

meet the demands for mental health services. The nursing workforce is once again a critical component of these mental health workforce expansion efforts, as nurses may specialize in areas such as psychiatry/mental health and substance abuse. Currently, approximately 4% of Indiana's nursing workforce is specialized in these areas. As such, the State of Indiana, has capitalized on their versatility and clinical expertise to educate and train law enforcement and lay responders in the use and administration of naloxone as a result of the passage of SB 227 and SB 406. The nursing workforce has and will continue to play a critical role in the successful implementation of these state policy initiatives.

Conclusion

The distribution of opioid drugs has increased by over 7 times between 1997 and 2007 (Centers for Disease Control and Prevention, 2012a). Although the death rate associated with opioid pain relievers decreased from 2010 to 2012 (Rudd et al., 2014), prescription drug abuse and heroin use remains a significant problem in the United States. Prescription drug abuse is by no means a new problem in the United States. However, the continued growth and the current scale of the problem have reason to raise serious concern (Compton, Thomas, Conway, & Colliver, 2005). Research efforts will eventually catch up with the prescription drug abuse epidemic; however states must look to implement intervention and prevention strategies that are considered to be the most promising in fighting prescription drug abuse.

As of 2011, Indiana had only implemented 5 of the 10 strategies recommended by Trust for America's Health (Levi et al., 2013). Since then, Indiana has expanded Good Samaritan laws and adopted rescue drug laws that promote the use of naloxone to prevent opioid and heroin drug overdoses. Furthermore, Indiana has called on the nursing workforce to help train and educate first responders and lay persons in the administration of naloxone. Indiana has had great success, in a short period of time, with the adoption of these new state policies. In addition, nurses throughout the state have stepped up to help with implementation. The contribution of the nursing workforce has been key to sustaining the momentum in Indiana and maximizing the impact these initiatives have on prescription drug abuse in Indiana.

References

- Akers, T. A., Potter, R. H., & Hill, C. V. (2013). *Epidemiological criminology : a public health approach to crime and violence* (1st ed.). San Francisco: Jossey-Bass.
- Association of State and Territorial Health Officers. (2014). ASTHO 2014 President's Challenge: 20 Highlights from State/Territory Pledges. Retrieved from <http://www.astho.org/annual-meeting-2014/presentations/state-pledges-prescription-drug-misuse-session/>
- Canady, V. A. (2015). SAMHSA releases 5-point plan to improve mental health. *Mental Health Weekly*, 25(8), 7-7.
- Centers for Disease Control and Prevention. (2012a). CDC Grand Rounds: Prescription Drug Overdoses--A U.S. Epidemic. *The Journal of the American Medical Association*, 61, 10-13.
- Centers for Disease Control and Prevention. (2012b). *Prescription Drug Overdose in the United States: Fact Sheet*. Retrieved from
- Compton, W. M., Thomas, Y. F., Conway, K. P., & Colliver, J. D. (2005). Developments in the epidemiology of drug use and drug use disorders. *American Journal of Psychiatry*, 162(8), 1494-1502. doi:DOI 10.1176/appi.ajp.162.8.1494
- Duwve, J. (2015). *Indianapolis Emergency Medical System Naloxone Report*. Retrieved from Indianapolis, IN: Emergency Rule, (2013).
- Fredrick, J. (2015). *Indianapolis Metropolitan Police Department (IMPD) Pilot Data*. Retrieved from Indianapolis, IN:
- Hansen, R. N., Oster, G., Edelsberg, J., Woody, G. E., & Sullivan, S. D. (2011). Economic costs of nonmedical use of prescription opioids. *The Clinical journal of pain*, 27(3), 194-202. Retrieved from <http://graphics.tx.ovid.com/ovftpdfs/FPDDNCLBNHFEMB00/fs046/ovft/live/gv023/00002508/00002508-201103000-00002.pdf>
- Health Resources and Services Administration. (2014). The Future of the Nursing Workforce: National- and State-Level Projections, 2012-2025. Retrieved from <http://bhpr.hrsa.gov/healthworkforce/supplydemand/nursing/workforceprojections/nursingprojections.pdf>
- Levi, J., Segal, L., & Miller, A. F. (2013). *Prescription Drug Abuse: Strategies to Stop The Epidemic 2013*. Retrieved from healthyamericans.org:
- National Alliance for Model State Drug Laws. (2014). *Good Samaritan and Naloxone Bill Status Report – Carryover 2014 and Special Sessions*. Retrieved from <http://www.namsdl.org/library/4ECB3174-19B9-E1C5-3119EA3DF725DD85/>
- Pletcher, M. J., Kertesz, S. G., Kohn, M. A., & Gonzales, R. (2008). Trends in opioid prescribing by race/ethnicity for patients seeking care in US emergency departments. *The Journal of the American Medical Association*, 299(1), 70-78. doi:10.1001/jama.2007.64
- Purviance, D., & Southard, E. (2015). *The Nose Knows*.
- Rudd, R. A., Paulozzi, L. J., Bauer, M. J., Burleson, R. W., Carlson, R. E., Dao, D., . . . Fernandes, J. C. (2014). Increases in Heroin Overdose Deaths—28 States, 2010 to 2012. *MMWR: Morbidity and mortality weekly report*, 63(39), 849-854.
- United Nations Office on Drugs and Crime. (2014). *World Drug Report 2014*. Vienna, Austria: United Nations Publications.

- University of Washington Alcohol and Drug Abuse Institute. (2011). Washington's 911 Good Samaritan Drug Overdose Law: Initial Evaluation Results, 2011. Retrieved from <http://adai.uw.edu/pubs/infobriefs/ADAIIB-2011-05.pdf>
- Wheeler, E., Jones, T., & Gilbert, M. (2015). Opioid Overdose Prevention Programs Providing Naloxone to Laypersons -- United States, 2014. *Morbidity and Mortality Weekly Report*, 64(23), 631-635.
- Williams, A. V., Strang, J., & Marsden, J. (2013). Development of Opioid Overdose Knowledge (OOKS) and Attitudes (OOAS) Scales for take-home naloxone training evaluation. *Drug and Alcohol Dependence*, 132(1-2), 383-386. doi:10.1016/j.drugalcdep.2013.02.007

Figure 1

Figure 1: Estimated Total Cost of Nonmedical Use of Prescription Opioids in 2006 (in billions)

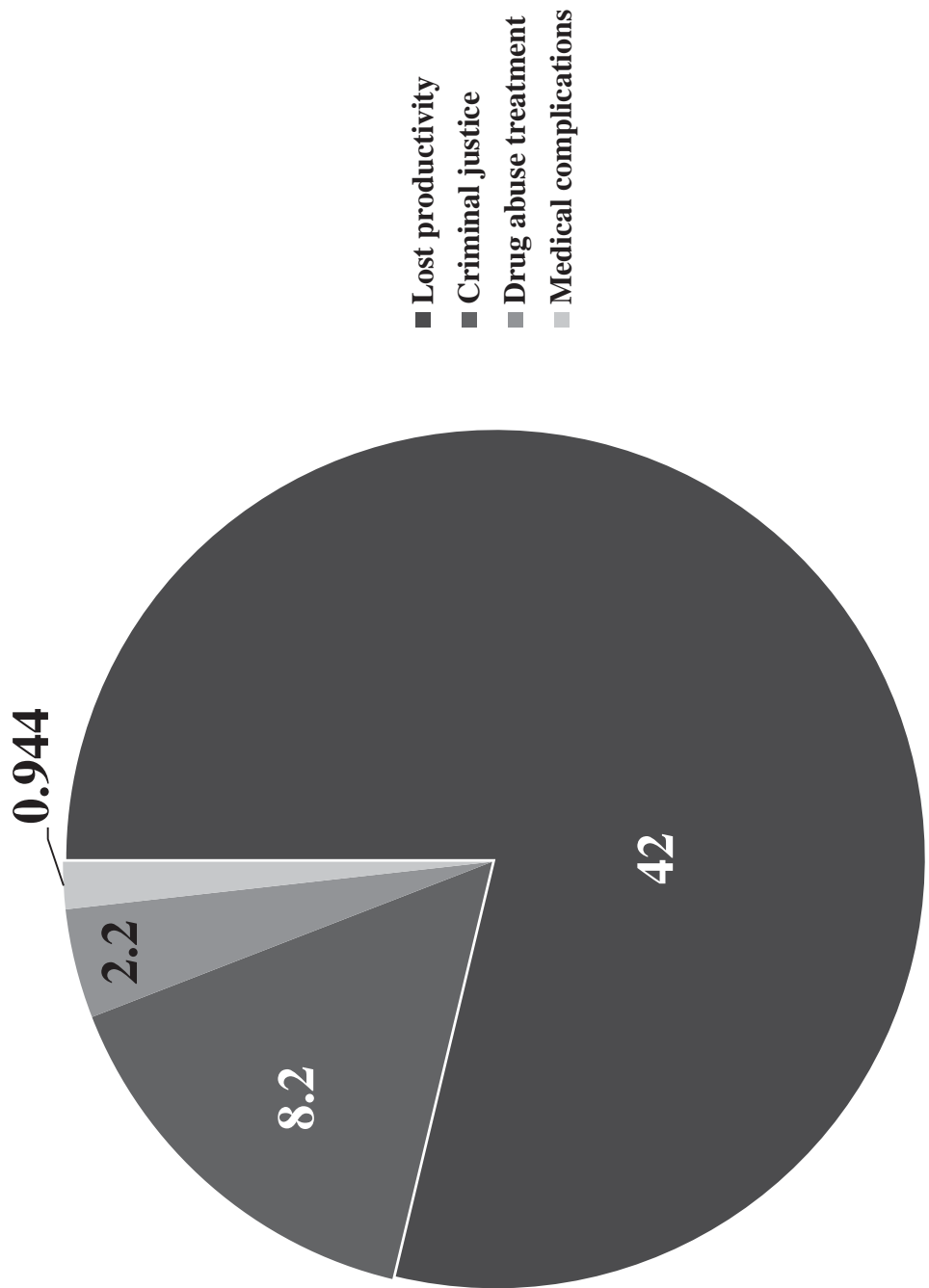


Table 1: State Level Policy Indicators for Prescription Drug Abuse Prevention

Indicator (Intervention)	Description	States with Intervention*
Prescription Drug Monitoring Programs	Does the state have an operational Prescription Drug Monitoring Program?	49
Mandatory Use of PDMP	Does the state require mandatory use of PDMPs by providers?	16
Doctor Shopping Laws	Does the state have a doctor shopping statute?	50
Support for Substance Abuse Services	Has the state expanded Medicaid under the Affordable Care Act, thereby expanding coverage of substance abuse treatment?	24
Medical Provider Education Laws	Does the state require or recommend education for prescribers of pain medications?	22
Good Samaritan Laws	Does the state have a law in place to provide a degree of immunity from criminal charges for an individual seeking help for themselves or others experiencing an overdose?	6
Rescue Drug Laws	Does the state have a law in place to expand access to, and use of, naloxone for overdosing individuals given by lay administrators?	17
Physical Exam Requirement	Does the state require a healthcare provider to either conduct a physical exam of the patient prior to prescribing prescription medications?	44
ID Requirement	Does the state have a law requiring or permitting a pharmacist to ask for identification prior to dispensing a controlled substance?	32
Pharmacy Lock-In Program	Does the state's Medicaid plan have a pharmacy lock-in program that requires individuals suspected of misusing controlled substances to use a single prescriber and pharmacy?	46

*These are the number of states that have implemented these interventions as of 2011